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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,563	11/16/2005	Mark Christopher Hope	M02B155	1379
20411 7590 06/05/2008 The BOC Group, Inc. 575 MOUNTAIN AVENUE MURRAY HILL, NJ 07974-2082				
EXAMINER				
TRIEU, THEREA				
ART UNIT		PAPER NUMBER		
3748				
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06/05/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/531,563

**Applicant(s)**

HOPE ET AL.

**Examiner**

Theresa Trieu

**Art Unit**

3748

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on Nov. 16, 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20, 22-30, 32-38 and 42-54 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20, 22-30, 32-36 and 42-54 is/are rejected.
- 7) ☒ Claim(s) 37 and 38 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on April 14, 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 04/14/2005.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

Receipt and entry of Applicants' Preliminary Amendment filed on Nov. 16, 2005 and April 14, 2005 is acknowledged.

Claims 1-20, 23-30, 32-37, 42-52 and 54 have been amended. Claims 21, 31, 39-41 have been canceled. Accordingly, claims 1-20, 22-30, 32-38 and 42-54 are pending in this application.

#### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

#### ***Drawings***

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "5" has been used to designate both "housing" and "stator"; reference character "6" has been used to designate both "cavity" and "inner layer". Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "nozzle" recited in claims 5, 6,

42, 43; "claw pump" recited in claim 11; "Roots pump" recited in claim 12; "chemical vapor deposition apparatus" recited in claim 53, must be shown or the feature(s) canceled from the claim(s); the methods of claims 35 and 36-38 must be shown or the feature(s) canceled from the claim(s). Block diagrams showing the methods are needed. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Specification*

4. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-10, 13-20, 22-30, 32-36 and 42-53 are rejected under 35 U.S.C. 102(b) as being anticipated by any one of Nishimura (Publication Number JP 60-017283) or Naya et al. (Naya) (Patent Number 4,984,974) or Ingistov et al. (Ingistov) (U.S. Patent Application Publication Number 2002/0141882).

Regarding claims 1 and 18, Nishimura or Naya or Ingistov discloses a pump comprising: a rotor (4, 5 in Nishimura; 4, 5 in Naya; 14 in Ingistov) and a stator; a housing (8 in Nishimura; 11 in Naya; 12 in Ingistov) enclosing the rotor and the stator, the housing having an inlet (A in Nishimura; 14 in Naya; 18 in Ingistov) for receiving a first fluid, and a port (6 in Nishimura; 16 in Naya; 34 in Ingistov) positioned downstream from the inlet; and means (15 in Nishimura; not numbered; however, clearly seen in Fig. 10 in Naya; 38 in Ingistov) for injecting, a second fluid into the housing through the port, for acting wherein the second fluid acts on deposits on a surface of the rotor and a surface of the stator.

Regarding claims 2-8, 42, 43, 51 and 52, Ingistov discloses a plurality of ports 34; the ports being located radially about the housing 12; the ports 34 being located along a length of the rotor 14; at least one of the ports 34 includes a nozzle 38 for spraying fluid; the nozzle 38 being

integrally formed within at least one of the ports 34; the housing 12 comprising a two skinned wall having an inner skin 76 and an outer skin 68 and forming a cavity between the inner and outer skins; the inner skin of the housing is adapted to form the stator.

Regarding claims 9-10, Nishimura or Naya discloses the pump is a screw pump having two threaded rotors (4, 5 in Nishimura; 4, 5 in Naya); the port (16 in Naya) being located downstream of a first two complete turns of thread of the threaded rotors.

Regarding claims 13-17, 19, 20, 44-50 and 53, Ingistov further discloses the second fluid being a liquid/solvent/gas/steam/halogen/the second fluid reactive substance for reacting with the deposits/the fluid comprising one a compound selected from the group consisting of CIF<sub>3</sub>, F<sub>2</sub>, and NF<sub>3</sub>; the pump being connected to a chemical vapor deposition apparatus having a process chamber and an outlet of the process chamber, wherein the pump inlet (16 in Naya; 34 in Ingistov) is connected to the outlet of the process chamber, and wherein the deposits are a by-product of a chemical vapor deposition process.

6. The method claims 22-30, 32-36 and 54 are inherent in the operation of any one of the Nishimura or Naya or Ingistov device.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various

claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Naya.

Naya disclose the invention as recited above; however, Naya fails to disclose the pump being a claw/Roots pump. It would have been obvious to one having ordinary skill in the art at the time the invention was made, to have utilized the claw/Roots pump in the modified Naya device since these types of pumps are shown to be conventionally utilized to pump a liquid and the claw/Roots pumps are routinely utilized as vacuum pumps.

***Allowable Subject Matter***

8. Claims 37 and 38 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Prior Art***

9. The IDS (PTO-1449) filed on April 14, 2005 has been considered. An initialized copy is attached hereto.

***Conclusion***

10. Applicant is duly reminded that a complete response must satisfy the requirements of 37 C.F.R. 1.111, including: "The reply must present arguments pointing out the specific distinctions

believed to render the claims, including any newly presented claims, patentable over any applied references. A general allegation that the claims "define a patentable invention" without specifically pointing out how the language of the claims patentably distinguishes them from the references does not comply with the requirements of this section. Moreover, "The prompt development of a clear Issue requires that the replies of the applicant meet the objections to and rejections of the claims." Applicant should also specifically point out the support for any amendments made to the disclosure. See MPEP §2163.06 II(A), MPEP §2163.06 and MPEP §714.02. The "disclosure" includes the claims, the specification and the drawings.

#### *Communication*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Theresa Trieu whose telephone number is 571-272-4868. The examiner can normally be reached on Monday-Friday 8:30am- 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion can be reached on 571-272-4859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TT  
June 2, 2008

/Theresa Trieu/  
Primary Examiner, Art Unit 3748